

**Claims**

1. Nucleic acid with (a) a nucleotide sequence that is shown in Seq ID No. 1, (b) a nucleotide sequence that corresponds to the sequence from (a) against the backdrop of the degeneration of the genetic code or (c) a nucleotide sequence that hybridizes under stringent conditions with the sequences from (a) or (b).

2. Polypeptide with an amino acid sequence that is shown in Seq ID No. 2.

3. Use of human PEM or a nucleic acid that codes for this as a target substance for the production of an agent for birth control.

4. Use of human PEM or a nucleic acid that codes for this as a target substance for the production of an agent for treating Alzheimer's disease.

5. Use according to claim 3, wherein the human PEM is coded by (a) the coding area of the nucleic acid sequence that is shown in SEQ ID No. 1, (b) one of the sequences according to (a) against the backdrop of the degeneration of the genetic code and/or (c) a nucleic acid sequence that hybridizes under stringent conditions with the sequences according to (a) and/or (b).

6. Use according to claim 3, wherein the human PEM has the amino acid sequence that is shown in SEQ ID No. 2 or an amino acid sequence that is at least 80% identical to it.

7. Use according to claim 3, wherein an inhibition of PEM is used to reduce the fertility.

8. Use according to claim 3, wherein an activation of PEM is used to increase fertility.

9. Process for identifying agents for birth control, wherein the ability of test substances to modulate PEM is determined.

10. Use according to claim 4, wherein an inhibition of PEM is used for treating Alzheimer's disease.

11. Process for identifying agents for treating Alzheimer's disease, wherein the ability of test substances to inhibit PEM is determined.

12. Process according to claim 9, wherein the formulation of the test substances that have a modulatory or inhibitory action or compounds derived therefrom into a pharmaceutical agent.

13. Process for fertility diagnosis, wherein the expression and/or functionality of human PEM is determined in a sample.

14. Cell, wherein it is transfected with a nucleic acid that codes for human PEM or a fragment thereof.

15. Human cell, wherein it contains a defective PEM gene in at least one allele.

16. Process for identifying genes that are regulated by the human PEM gene, wherein the effect of human PEM on the gene expression in human cells is tested.

17. Process according to claim 16, wherein a transcriptor analysis or proteome analysis is performed.

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